

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>FPIM-08000</b>	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/JP 01/ 01875</b>	International filing date (day/month/year) <b>09/03/2001</b>	(Earliest) Priority Date (day/month/year) <b>13/03/2000</b>
Applicant  <b>MITSUBISHI DENKI KABUSHIKI KAISHA et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

**ADAPTIVE TURBO-CODING AND DECODING**

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

2



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures.

# TENT COOPERATION TREATY

07981

From the INTERNATIONAL BUREAU

PCT

## NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

SOGA, Michiteru  
S. Soga & Co.  
8th Floor, Kokusai Building  
1-1, Marunouchi 3-chome  
Chiyoda-ku, Tokyo 100-0005  
JAPON



Date of mailing (day/month/year) 20 September 2001 (20.09.01)		
Applicant's or agent's file reference FPIM-08000		IMPORTANT NOTICE
International application No. PCT/JP01/01875	International filing date (day/month/year) 09 March 2001 (09.03.01)	
		Priority date (day/month/year) 13 March 2000 (13.03.00)
Applicant MITSUBISHI DENKI KABUSHIKI KAISHA et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

KR,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

CN,JP

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 20 September 2001 (20.09.01) under No. WO 01/69795

### REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

### REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p>	<p>Authorized officer J. Zahra</p>
<p>Facsimile No. (41-22) 740.14.35</p>	<p>Telephone No. (41-22) 338.83.38</p>

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/JP 01/01875

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H03M13/29 H03M13/35 H04L1/00 H03M13/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H03M H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 197 36 653 C (SIEMENS AG) 10 December 1998 (1998-12-10) column 5, line 16 - line 30; figure 1 column 6, line 37 - column 7, line 43 column 8, line 43 - line 50; figure 6	1, 5, 7
A	GB 2 160 392 A (RACAL RES LTD) 18 December 1985 (1985-12-18) page 1, line 89 - line 123 page 2, line 14 - line 34 page 3, line 102 - line 113 page 5, line 58 - line 96 figure 3	1, 5-9

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

2 July 2001

Date of mailing of the international search report

12/07/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Martinez Martinez, V

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 01/01875

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WANG C: "On the performance of turbo codes"</p> <p>IEEE MILITARY COMMUNICATIONS CONFERENCE. PROCEEDINGS. MILCOM 98 IEEE MILITARY COMMUNICATIONS CONFERENCE. PROCEEDINGS, 18 - 21 October 1998, XP002154552 Boston, MA</p> <p>*9. Conclusion. *</p>	1-4
A	<p>FAN MO; KWATRA S C ; JUNGHWAN KIM: "Analysis of puncturing pattern for high rate turbo codes"</p> <p>MILCOM 1999. IEEE MILITARY COMMUNICATIONS. CONFERENCE PROCEEDINGS , PROCEEDINGS OF CONFERENCE ON MILITARY COMMUNICATIONS (MILCOM'99), ATLANTIC CITY, NJ, USA, 31 October 1999 (1999-10-31) - 3 November 1999 (1999-11-03), XP002154553</p> <p>the whole document</p>	1-4
A	<p>ACIKEL O F ET AL: "HIGH RATE TURBO CODES FOR BPSK/QPSK CHANNELS"</p> <p>ATLANTA, GA, JUNE 7 - 11, 1998, NEW YORK, NY: IEEE, US, vol. CONF. 5, 7 June 1998 (1998-06-07), pages 422-427, XP000898743</p> <p>ISBN: 0-7803-4789-7</p> <p>* IV. Results. *</p>	1-4

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 01/01875

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19736653 C	10-12-1998	AU 9253498 A BR 9811918 A CN 1268268 T WO 9911013 A EP 1005735 A	16-03-1999 15-08-2000 27-09-2000 04-03-1999 07-06-2000
GB 2160392 A	18-12-1985	NONE	



CABINET LE GUEN ET MAILLET  
BP 70250  
5, PLACE NEWQUAY  
35802 DINARD CEDEX

DEMANDE DE : BREVET  
N° : 0003339000 DU 13/03/00  
V/REF. : 7129

PARIS, LE 08 JANVIER 2001

A COLLER  
SUR LA  
RÉPONSE

RÉPONSE NON OBLIGATOIRE D'UN RAPPORT DE RECHERCHE PRÉLIMINAIRE  
SAUF AU RAPPORT DE RECHERCHE PRÉLIMINAIRE OBLIGATOIRE

Messieurs,

J'ai l'honneur de vous adresser, en annexe, le rapport de recherche préliminaire établi conformément à l'article R.612-57 du code de la propriété intellectuelle, citant les documents qui peuvent être pris en considération pour apprécier la nouveauté et l'activité inventive de l'invention, objet de votre demande.

Selon l'article R.612-59 du code précité, vous disposez d'un délai de **3 mois** à compter de la date de réception de ce rapport de recherche préliminaire pour y répondre par écrit. Avant l'expiration de ce délai, celui-ci peut être renouvelé une fois sur votre requête.

Suivant la catégorie des documents cités, vous pouvez être tenu à une obligation de réponse (par exemple, si le rapport de recherche préliminaire mentionne des documents de catégorie **X ou Y**). Dans ce cas, un papillon **rouge** est apposé sur cette lettre et le défaut de réponse entraînera le rejet de la demande. Dans le cas contraire, ce papillon est **jaune**.

Dans tous les cas, il est de votre intérêt en élaborant votre réponse, de tenir compte de tous les documents cités.

Selon les articles R.612-58 et R.612-60 du code précité, votre réponse peut consister :

- soit en de nouvelles revendications (en 3 exemplaires). Dans ce cas, vous devez signaler les changements apportés aux revendications initiales. Vous pouvez y joindre des observations qui mettent en évidence les caractéristiques techniques de ces nouvelles revendications qui échappent à l'opposabilité des antériorités citées.

- soit seulement en des observations qui ont alors pour objet de discuter l'opposabilité des antériorités citées.

Veuillez agréer l'expression de ma considération distinguée.

Pour le Directeur général de l'Institut national  
de la propriété industrielle

Le Chef du département des brevets

Martine PLANCHE

INSTITUT  
NATIONAL  
DE LA  
PROPRIÉTÉ  
INDUSTRIELLE

SIEGE  
26 bis, rue de Saint Petersburg  
75800 PARIS cedex 08  
Téléphone : 01 53 04 53 04  
Télécopie : 01 42 93 59 30  
<http://www.inpi.fr>

Translation of Category of Cited Documents in the attached foreign language Search Report:

- X: particularly relevant if taken alone
  - Y: particularly relevant if combined with another document of the same category
  - A: relevant to at least one claim or as technological background
  - O: non-written disclosure
  - P: intermediate document
  - T: theory or principle underlying the invention
  - E: document entitled to a date prior to the filing date but which was not published until the filing date or a later date.
  - D: document cited in the application
  - L: document cited for other reasons
- 
- &: member of the same patent family, corresponding document



# RAPPORT DE RECHERCHE PRÉLIMINAIRE

établi sur la base des dernières revendications  
déposées avant le commencement de la recherche

N° d'enregistrement  
national

FA 585530  
FR 0003339

DOCUMENTS CONSIDÉRÉS COMME PERTINENTS		Revendication(s) concernée(s)	Classement attribué à l'invention par l'INPI
Catégorie	Citation du document avec indication, en cas de besoin, des parties pertinentes		
A	GB 2 160 392 A (RACAL RES LTD) 18 décembre 1985 (1985-12-18) * page 1, ligne 89 - ligne 123 * * page 2, ligne 14 - ligne 34 * * page 3, ligne 102 - ligne 113 * * page 5, ligne 58 - ligne 96 * * figure 3 *	1,5-9	G06F11/08 H04L1/00 H03M13/27
A	WANG C: "On the performance of turbo codes" IEEE MILITARY COMMUNICATIONS CONFERENCE. PROCEEDINGS. MILCOM 98 IEEE MILITARY COMMUNICATIONS CONFERENCE. PROCEEDINGS, 18 - 21 octobre 1998, XP002154552 Boston, MA *9. Conclusion. *	1-4	
A	FAN MO; KWATRA S C ; JUNGHWAN KIM : "Analysis of puncturing pattern for high rate turbo codes " MILCOM 1999. IEEE MILITARY COMMUNICATIONS. CONFERENCE PROCEEDINGS , PROCEEDINGS OF CONFERENCE ON MILITARY COMMUNICATIONS (MILCOM'99), ATLANTIC CITY, NJ, USA, 31 octobre 1999 (1999-10-31) - 3 novembre 1999 (1999-11-03), XP002154553 * le document en entier *	1-4	DOMAINES TECHNIQUES RECHERCHÉS (Int.CL.7)  H03M H04L
A	ACIKEL O F ET AL: "HIGH RATE TURBO CODES FOR BPSK/QPSK CHANNELS" ATLANTA, GA, JUNE 7 - 11, 1998, NEW YORK, NY: IEEE, US, vol. CONF. 5, 7 juin 1998 (1998-06-07), pages 422-427, XP000898743 ISBN: 0-7803-4789-7 * IV. Results. *	1-4	
Date d'achèvement de la recherche		Examineur	
6 décembre 2000		Martínez Martínez, V	
<p>CATÉGORIE DES DOCUMENTS CITÉS</p> <p>X : particulièrement pertinent à lui seul Y : particulièrement pertinent en combinaison avec un autre document de la même catégorie A : arrière-plan technologique O : divulgation non-écrite P : document intercalaire</p> <p>T : théorie ou principe à la base de l'invention E : document de brevet bénéficiant d'une date antérieure à la date de dépôt et qui n'a été publié qu'à cette date de dépôt ou qu'à une date postérieure. D : cité dans la demande L : cité pour d'autres raisons &amp; : membre de la même famille, document correspondant</p>			



